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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,818	07/09/2003	Fumihiko Nakashige	239979US2	8140
22850	7590	05/04/2007		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
			EXAMINER	
			POPOVICI, DOV	
			ART UNIT	PAPER NUMBER
			2625	
			NOTIFICATION DATE	DELIVERY MODE
			05/04/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/614,818

Applicant(s)

NAKASHIGE ET AL.

Examiner

Dov Popovici

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-11 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Dov Popovici

Dov POPOVICI
PRIM. EXAMINER

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/9/2003.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

The abstract of the disclosure is objected to because the abstract exceed 150 words in length. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words.

Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 12 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 12 claims a computer program per se. Claim 12 is directed to non-statutory functional descriptive material. "Computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035. " " Since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process and USPTO personnel should treat a claim for a computer program, without the computer-readable medium needed to realize the computer program's functionality, as nonstatutory functional descriptive material" (see Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Mitsuzawa (U.S. Pub. No. 2002/0008730 A1).

As to claim 1, Mitsuzawa discloses an image evaluation method for evaluating a dot in an image produced by an imaging apparatus that generates a two-dimensional image on a support medium, said image being formed by a plurality of dots having a predetermined dimension arranged in a main scanning direction and a sub scanning direction at predetermined pitches of at least 2.5 times the predetermined dimension of the dots (see figure 5, where the pitch K is 4 dot, which is over the at least 2.5), the method comprising the step of: evaluating a dot position deviation in the sub scanning direction by measuring a dot position of each dot in the image (see figures 10-11, 16, and 21. In figure 10, S4, calculates displacement of dot recording position on each raster line in each dot record mode, and S5, calculate evaluation value in each dot record mode, in figure 11, S13 calculates center position deviations of ruled lines and S14 stores the center position deviations and see abstract).

As to claim 2, Mitsuzawa discloses further including evaluating a dot size variation in the image by measuring a dot size of each dot in the image (see page 10, paragraph 0135 and page 12, paragraph 0155).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsuzawa (U.S. Pub. No. 2002/0008730 A1) in view of Berge et al. (U.S. 5,821,957).

As to claim 3, Mitsuzawa does not teach wherein the image produced by the imaging apparatus is formed by a plurality of dots in a diagonal line such that adjacent dots of the diagonal line are offset from each other by at least one dot in the sub scanning direction.

Berge et al. teaches a method of ink jet printing using color fortification in black regions, wherein the image produced by the imaging apparatus is formed by a plurality of dots in a diagonal line such that adjacent dots of the diagonal line are offset from each other by at least one dot in the sub scanning direction (see column 4, lines 39-50).

Therefore, it would have been obvious to one person having the ordinary skill in the art at the time the invention was made to have modified Mitsuzawa wherein the image produced by the imaging apparatus is formed by a plurality of dots in a diagonal line such that adjacent dots of the diagonal line are offset from each other by at least one dot in the sub scanning direction.

It would have been obvious to one person having the ordinary skill in the art at the time the invention was made to have modified Mitsuzawa by the teaching of Berge et al. for the reasons taught by Berge et al. at column 4, lines 46-58.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsuzawa (U.S. Pub. No. 2002/0008730 A1) in view of Miyake (U.S. 7,058,232):

As to claim 4, Mitsuzawa discloses an image evaluation apparatus, comprising: an image input unit (see figure 1 and figures 23-24, scanner 12) that captures an image reproduced by an imaging apparatus as a two-dimensional image signal, said image signal representing an image formed by a plurality of dots having a predetermined dimension arranged in a main scanning direction and a sub scanning direction at predetermined pitches of at least 2.5 times the predetermined dimension of the dots (see figure 5, where the pitch K is 4 dot, which is over the at least 2.5); an image storage unit (95, 96, 216) that stores the image signal acquired by the image input apparatus; and an image signal computation unit (see figures 22-24, 96a, 96b, and 96c) that obtains the image signal from the image storage unit and performs a computation for evaluating the image based on the image signal.

Mitsuzawa does not teach that the image input unit captures an image reproduced by an imaging apparatus as a two-dimensional image signal at a resolution that is at least twice as high as a dot resolution of the image.

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Miyake teaches that image input unit (scanner) that captures an image reproduced by an imaging apparatus as a two-dimensional image signal at a resolution that is at least twice as high as a dot resolution of the image (see column 9, lines 25-31).

Therefore, it would have been obvious to one person having the ordinary skill in the art at the time the invention was made to have modified Mitsuzawa wherein his image input unit captures an image reproduced by an imaging apparatus as a two-dimensional image signal at a resolution that is at least twice as high as a dot resolution of the image.

It would have been obvious to one person having the ordinary skill in the art at the time the invention was made to have modified Mitsuzawa by the teaching of Miyake for the reasons taught by Miyake at column 9, lines 29-31, mainly, in order to exactly read the presence of the dots on the print, the resolution of the scanner has to be at least twice of that of the printer, according to the sampling principle (see Miyake at column 9, lines 29-31). Furthermore, capturing and/or scanning an image at a resolution that is at least twice as high as a dot resolution of the image, would provide a better quality image with a higher resolution image to be either processed, displayed or printed to the user. Hence, a higher resolution image provides a better quality image to the user.

Allowable Subject Matter

are
Claims 5-11_A allowed.

D.P.
4/29/2007

The following is a statement of reasons for the indication of allowable subject matter: The closest prior art of record, namely, Mitsuzawa (U.S. Pub. No. 2002/0008730 A1), does not disclose, teach or suggest, calculating an accumulation value of the detected image signal values of the dot detection start position and the next dot detection position; successively shifting the dot detection start position within the portion of the image and repeating the steps of detecting and accumulating the image signal value of the dot detection start position, determining the next dot detection position, detecting and accumulating the image signal value of the next dot detection position, and calculating the accumulation value to obtain a plurality of accumulation values; comparing the plurality of accumulation values and detecting a minimum accumulation value; and determining the dot positions of the dot line contained in the portion of the image based on the dot detection positions of which the accumulation value corresponds to the minimum accumulation value, as claimed in independent claim 5. Claims 6-11 are allowed because they are dependent from independent claim 5.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dov Popovici whose telephone number is 571-272-4083. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached on 571-272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Dov Popovici
Primary Examiner
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